

The background of the entire page is a grayscale photograph of a woman with her hair in a ponytail, wearing a long-sleeved shirt and leggings, sitting on the grass and stretching her leg. She is wearing earbuds. The image is semi-transparent, allowing the text to be overlaid.

**EARN MONEY**  
**JUST BY**  
**INVESTING IN YOUR**  
**HEALTH!**

# DISCLAIMER

HICO Wealth Foundation and related names, logos, and brands are trademarks or other property of HICO Wealth Foundation. Health tokens (formerly known as PlayCoin) and related names, logos, and brands are trademarks or property of HICO Wealth Foundation. Playpal Corp. and related names, logos, and brands are trademarks or property of Playpal Corp. Health Capital Model, HICO Score and related names, logos, and brands are trademarks or property of Playpal Corp. All other trademarks referenced or cited here including Fitbit, United Healthcare, etc. are the property of their respective owners. Use of these names, logos, and brands does not imply endorsement.

This document does not constitute an offer to sell or the solicitation of an offer to purchase Health tokens (formerly known as PlayCoin) or capital stock of HICO Wealth Foundation, or any rights thereto (collectively, the “Securities”), nor shall there be any offer, solicitation or sale of the Securities or any rights thereto in any jurisdiction in which such offer, solicitation or sale would be unlawful. To the extent applicable, the Securities have not been and are not expected to be registered under the U.S. Securities Act of 1933, as amended (the “Securities Act”), or other applicable state securities laws, and may not be offered or sold in the United States absent registration or pursuant to an exemption from registration requirements of the Securities Act and under applicable state laws.

Certain statements, projections or other estimates herein (including estimates of market size, user volume, token and value, functionality or performance) are forward looking statements and are based upon certain assumptions, and you should not rely on them as predictions of future events. Other events, including unforeseen circumstances, that were not taken into account may occur and may significantly affect the analysis. Any assumptions should not be construed to be indicative of the actual events that will occur. We undertake no obligation to update or revise any forward-looking statements to reflect events or circumstances.

This document is for information purposes only and does not guarantee you a right to purchase any Securities. Any purchases will be subject to the terms and conditions of the definitive agreements governing such purchase.



# TABLE OF CONTENTS

<b>1. Introduction</b>	<b>5</b>
<b>2. The Health Capital Model</b>	<b>7</b>
2.1. Human Capital Model	7
2.2 The Health Capital Model	9
2.3. Difficulties with Self-Directed Health	10
<b>3. Stakeholder Incentives</b>	<b>12</b>
<b>4. Token Issuance</b>	<b>12</b>
<b>5. Tokenomics</b>	<b>12</b>
5.1 Financial Modeling of HICO Wealth Foundation Token	12
5.2. Functionality of Token	13
5.3. Token Workflow	12
<b>6. Conclusions</b>	<b>17</b>



# ABSTRACT

The health of an individual, a collective community, a burgeoning nation and the world is the most precious asset essential for progress and prosperity. Healthy individuals live a happy life, are more productive, and contribute more towards society. We quantify this invaluable asset as an individual's 'Health Capital'.

It is the goal of HICO Wealth Foundation to promote better health for its users. Users will be shown their Health Capital & status on a dashboard and will visualise the likely prognosis of their Health Capital into the future.

# 1. INTRODUCTION

Traditional health systems focus on remedial actions taken by the healthcare providers that are initiated after the symptoms of a disease manifest during the life of an individual. The individual is then expected to follow a set of procedures to seek treatment in a system that is organized around the type of diseases. The outcomes of these systems are defined by the elimination of a narrowly defined disease or a condition by chemical or operative intervention. To its credit, the system has improved life expectancy significantly<sup>1</sup>. These trends, however, have plateaued over the last few years, and there is a general realization that further improvements will only come through mechanisms not traditionally supported by existing healthcare systems.

Our vision of health reverses the institution-driven health trend and places the focus on the individual. We believe that in the future, the individual-focused improvement will start well before the manifestations. Here we present our vision for the future of healthy living that uses the most cutting-edge technologies to not only improve the health of individuals but also have a significant influence on the overall economy.

As the average lifespan expands, the probability of minor issues developing into chronic conditions over a lifetime increases. Longevity has placed a significant burden on traditional healthcare that is geared only to treat the patient after the onset of symptoms. Usually, in these situations, the symptoms develop well past the point where they could have been handled with benign interventions. Chronic conditions account for overwhelming health expenditures. In many situations, these costs can be brought down if the individuals can be encouraged to change their behaviors.<sup>2</sup>

To quantify health, we rely on the concept of health capital which is fundamentally derived from the well-established human capital model of economics. These models can be used to illustrate both the positive and negative effects of probabilistic health events, constructive and destructive lifestyle changes and habits, as well as other health-related interventions.

Health is also critically dependent on “health knowledge”. Traditionally, individuals relied on medical health providers as the sole oracles of medical knowledge. Governments, insurance providers and authorities are interested in keeping their members / citizens healthy to keep a check on ballooning healthcare costs. They run media campaigns to keep their members/citizens informed. The limitation is that these forms of education can only be performed for generic situations and do not take into consideration an individual's specific circumstances.

Once health capital is established as the primary goal, it is easy to see that expensive, and mostly painful biomedical interventions are not the only means to achieve it. However, it does place the onus directly on the individual to set personal goals and to manage them continuously.

To protect the user information, HICO Wealth Foundation will use the industry standard security and privacy best practices including strong encryption, blockchain and granularized access control.

Over the recent years, numerous applications and a wide range of connectable devices (Fitbit, Garmin etc) and apps have come to market that help the individual track their health conditions and makes it possible to monitor their progress and lifestyle changes. These devices and apps produce highly fragmented data that is very hard for the user to fully utilize.

HICO Wealth Foundation provides its Partner companies and potential alliances with the incentive of logging their users' progress toward improving their Health Capital by issuing its decentralized cryptocurrency, called the Health tokens (formerly known as PlayCoin) The accounting will be fully transparent and verifiable through Blockchain. Accumulation of Health tokens in one's account is expected to have a direct impact on improving one's Health Capital  $H(t)$ .

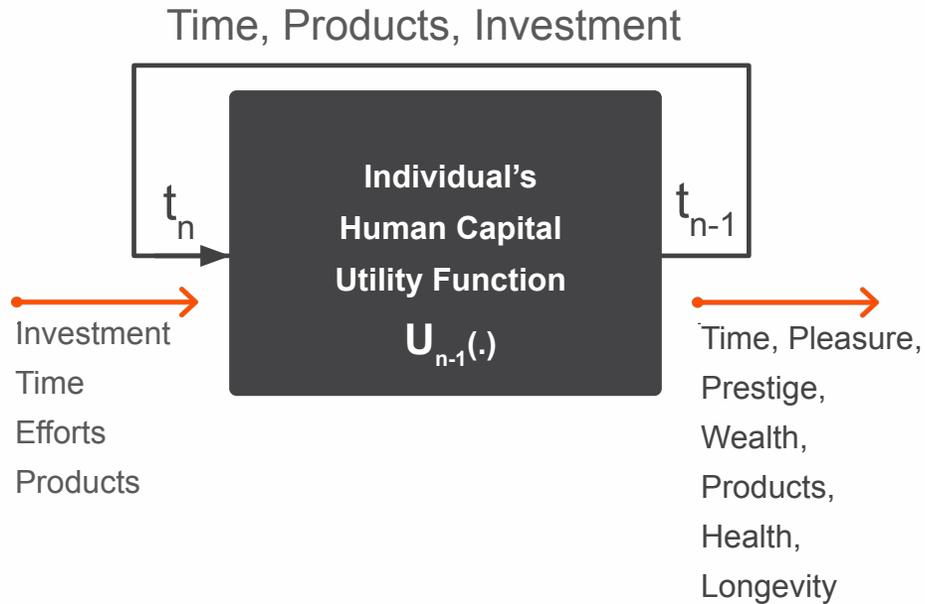


## 2. THE HEALTH CAPITAL MODEL

### 2.1 The Human Capital Model

Health has a tremendous impact on the economy. It is also well-established that the economy relies on productivity<sup>3</sup> and, in turn, depends on health.<sup>4 5</sup> Grossman established the concept and model of Human Capital in 1972<sup>6</sup> which is considered seminal in the field of the health economy.

# THE MODEL EXPLAINED



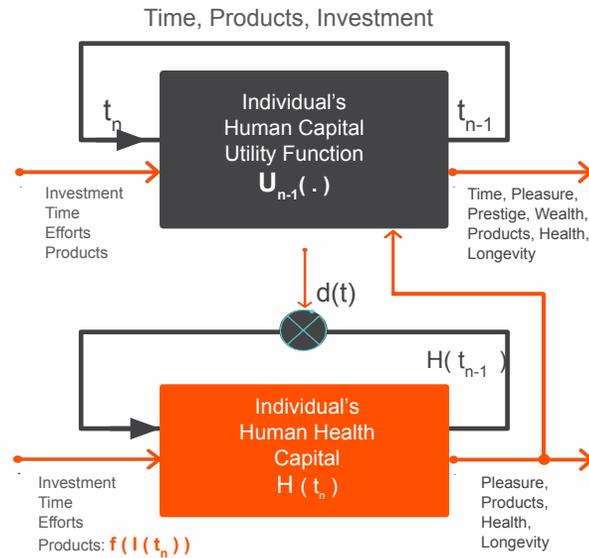
According to well-established economic theories, investments in human capital and knowledge raise productivity amongst many other benefits<sup>7</sup>. It is in the best interest of the general economy (market) as well as the individual to make such investments. Traditionally, it is recognized that when individuals invest in themselves in the form of knowledge, their personal utility function curves upwards that translates into a higher standard of living.

More recent research also recognizes that individuals have the incentive to optimize their own utility functions which includes, yet goes beyond, pure monetary benefits. The inputs to this utility function are individuals' efforts, time and the market goods that they purchase. The outputs can be the acquisition of desirable products, wealth, time for pleasure, satisfaction, prestige, longevity and health.. Some of the outputs of this utility function can be reinvested into improving the human capital of the individual in a hope to obtain even better returns from the utility function in the future. This is depicted in the figure on the left.

With the correct incentives in place, improvements in individual's productivity can enable individuals to earn rewards and allow stakeholders to reward individuals for better health. It also may help the individual earn or produce commodities that are part of the individual's utility function.

<sup>7</sup> Grossman, Michael, "The Human Capital Model of the Demand for Health", NBER Working Paper No. 7078, Issued in April 1999, <https://www.nber.org/papers/w7078>

# 2.2.THE HEALTH CAPITAL MODEL



Health Capital is a component of Human Capital<sup>8</sup>. It differs from the general Human Capital as health not only provides satisfaction (utility), but also acts an input to the income of wealth. If an individual is sick, it is a disutility. Also, unlike the Human Capital, Health Capital inevitably declines as individuals age. The decline can be slowed by investments in awareness, time, effort, lifestyle changes as well as in healthcare.

For a given individual, the Health Capital function  $H(t)$  is our attempt to quantify the quality of life and productivity of an individual in economic terms. It is a function of time that depends on numerous inputs, starting at conception & ending at one's death:

where the time variable  $t$  is relative to the individual from conception at  $t = 0$  till the death ( $T_{death}$ ).

Adopting a healthy lifestyle based on proper awareness and education is considered an intervention in our model. It can be used to slow down the inevitable decay of one's  $H(t)$  function.

The impact of most interventions decays with time, e.g. the benefits of exercise decay if it is not continued but

with regular exercise one can improve their natural  $H(t)$ . Other interventions may have a long-term positive impact of increasing  $H(t)$ .

$H(t)$ , in turn, depends probabilistically on multiple parameters that make up an individual's state of health and wellbeing. Examples of these parameters are:

- Environmental factors: pollution, access to healthy food, hazards at work, etc.
- Genomic factors: genome sequencing of the individual & our knowledge of genome markers & indicators
- Behavioral Factors: smoking, alcohol consumption, dietary habits, physical activity, travel frequency, sleep, etc.
- Life/Health Events: accidents, divorce, retirement, etc.
- Life/Health Altering Condition: birth defect, psychological condition, chronic medical condition, etc.

<sup>8</sup> Mushkin, Selma J. "Health as an investment", Journal of Political Economy 70, supplement, 1962, pp 129-157 <https://www.journals.uchicago.edu/doi/10.1086/258730>

## 2.3. DIFFICULTIES WITH SELF-DIRECTED HEALTH

The primary goal of this project is to make self directed health easy for the individuals through the use of tools and incentives.

Self-management of health; and remaining motivated while tolerating immediate discomfort, expense and investment of time without any immediate benefits is very challenging. The prerequisite is access to health knowledge so that the individual follows through on the wisdom extracted from it. Traditionally, we have relied on medical practitioners to guide individuals because they were the only source of the data. The human healthcare knowledge had to be summarized with general statistical summaries that often-ignored specific concerns of an individual's genome and environment. For instance, the optimal height and weight table for the Asian genome is very different from a native of The Netherlands.



### 3. STAKEHOLDER INCENTIVES

Stakeholders in an individual's health include Employers who benefit twice from improvement in individual's health capital: once by reducing their direct cost of health insurance and second by improving company's overall health capital and thus productivity. Stakeholders can also be Insurance companies or governments which also benefit because of these exactly both reasons. Stakeholders also include emotionally attached persons to the individual, who benefit from a healthier friend, family member, colleague or community member.

HICO Wealth Foundation will work with partner companies to develop and implement ways of assessing an individual's efforts, interventions & investments into improving health capital. The health-related information will be irrevocably written onto a blockchain.

HICO Wealth Foundation's adopted cryptocurrency, Health tokens (formerly known as PlayCoin), will be issued based on these verifiable actions of the individuals.

HICO Wealth Foundation provides convenience for stakeholders to utilize the Health tokens (formerly known as PlayCoin) to incentivise the individual to improve their Health Capital.

Partners can also participate in the ecosystem, which not only helps them enhance the sales of their products and services but also helps in testing newer ideas through the feedback, and opportunities to improve the effectiveness of their products.



# 4. TOKEN ISSUANCE

HICO Wealth Foundation is the token Issuer.  
Playpal Corporation is the launch partner of the foundation.



HICO Wealth Foundation



Playpal Corporation



# 5. TOKENOMICS

## 5.1. FINANCIAL MODELING OF HEKA token (formerly known as PlayCoin)

At this time, HICO Wealth Foundation is planning to issue a total of ten billion Health tokens (formerly known as PlayCoin).

In the UK, which has the tradition of justifying expenditure on healthcare, investing an estimate of additional £13,000 in the English National Health Service (NHS) provides one additional quality-adjusted life year (QALY)<sup>10</sup>. As UK Department of Health considers one QALY equivalent to £60,000<sup>11</sup>, we can see that the benefits of any successful intervention are tremendous.

In our economic model, we will consider these numbers optimistic which mostly represent the developed western countries. It is extremely difficult to obtain such numbers because there are no such systematic nationwide studies. However, it is well established that the costs of interventions are higher, and the benefits are harder to qualify due to relative ad hoc nature of how healthcare is dispensed.

With UK numbers providing support for our estimates, in our analysis we will use the pessimistic number of \$30,000 as the benefit for using HICO Wealth Foundation as a system for improving one's Health Capital . We will use a starting benefit of \$10,000 in 2019 with the assumption that we will be able to capture one million users.

“Claxton K , Martin S , Soares M , et al, “Methods for the estimation of the NICE cost effective ness threshold.” Health Technol Assess iii-iv 19, 2015, pp 1-203. <sup>11</sup> Masters R, Anwar E, Collins B, et al, “Return on investment of public health interventions: a systematic review”, J Epidemiol Community Health 71:827-834, 2017, <http://dx.doi.org/10.1136/jech-2016-208141>



## 5.2. FUNCTIONALITY OF TOKEN

### Why are we adopting a cryptocurrency?

- a.** The purpose of incorporating a cryptocurrency into the HICO Wealth Foundation ecosystem is the commodification / monetization of healthy behavior and health related data.
- b.** Health token (formerly known as PlayCoin) will serve as the extrinsic motivation for its members to maintain a healthy living style.
- c.** We envision Heka to be the “Currency for health” which can be utilized in all health related vertical.

### How does the token issuance ecosystem work?

HICO Wealth Foundation will issue tokens to the partners who will in turn issue challenges to their respective users.

### Who can be the ecosystem participants?

- Health apps
- Govt/NGOs
- Health providers
- Insurance providers
- Developers
- Database providers
- Smart city Incubators
- AI Companies



# 5.3 TOKEN MINING WORKFLOW

## How to mine tokens:

The foundation has partnered with Playpal Corp to allow users to mine tokens on the Playpal Platform. Tokens will be issued to users against the Playpoints they earn for taking action towards better health and for enabling the Playpal Platform to facilitate them in this pursuit. The metrics based on which each user earns these point rewards include:

**Goal completion:** Achievement of specific, quantified goals that Playpal assigns to each user based on their health profile

**Progress:** Percentage improvement in user's vitals and routine actions that define their lifestyle

**Data Authenticity:** Integration with multiple IoT devices, especially high accuracy ones to enable verification of vitals and actions

**Data Frequency:** How frequently the individual is using the app and connected IoT devices to monitor their health

## Cycle:

This is the duration after which coins will be released to members, which will initially be 1 day

## Average tokens per user:

$f(t)$  gives us the average tokens per user to be distributed after cycle  $t$ . It is calculated as follows:

$$f(t) = y(n, a) \times r(t) \times \theta$$

$y(n, a)$  is a function of the total number of users  $n(t)$  up till cycle  $t$  and  $a(t)$ , the number of active users during cycle  $t$ .  $y(n, a)$  is defined in such a way that:

- As  $n(t)$  increases, i.e. more users join the platform,  $f(t)$ , the average tokens distributed per user decreases
- If most of the users are active on day  $d$ ,  $f(t)$  is at its maximum. As  $a(t)$  drops,  $f(t)$  for that particular cycle diminishes too

$r(t)$  is the 'active reward pool'. It is the total number of tokens that are available to users for mining.

- After each cycle, as a certain amount of tokens is mined, this amount gets subtracted from the active rewards pool
- As more users join the platform ( i.e.  $n(t)$  increases), the active rewards pool gets bigger

$\theta$  is a decay constant that keeps the value of  $f(t)$  in check in each daily cycle

## Total Reward Pool:

If we sum up all the values of  $f$  from the start of token distribution till the end of infinite cycles, it will converge to a value  $R$  which is the **Total Rewards Pool**

$$R = \int_0^{\infty} f(t)dt$$

## Average Playpoints:

This is the average number of Playpoints earned per user during a cycle i.e. the sum of Playpoints earned by all of the platform's users during a cycle divided by the total number of users.

$$average\ playpoints = \frac{total\ playpoints}{n(t)}$$

Tokens earned by any specific user:

The number of tokens that an individual user earns during a cycle is calculated as a weighted average using the value of  $f(t)$  as follows:

$$tokens\ issued\ to\ user = f(t) \times \frac{user's\ playpoints\ in\ cycle\ t}{average\ playpoints}$$



## 6. CONCLUSION

This Lite paper presents a commercial approach for defining the health capital of an individual – the research-based approach can be found in our detailed Whitepaper. The methodology for tuning such a capital for an individual's needs, and then continuously improving it to improve that individual's quality of life is explained in the preceding sections.

HICO Wealth Foundation aims to implement this vision by importing publicly available knowledge bases, collecting the individual's health data, and conducting functional analysis to combine the two. This is expected to result in useful guidelines for the individuals that allows them to chart a course to a healthier and longer life. Users are rewarded for verifiable good and healthy behavior, partners for providing value to the users, and the society in general for having happier and content citizens.